

inlet port communicates with the water outlet 141. The check valve 200 does not require a hinge shaft for coupling the flap 250 with the flap support arms 260. That is, by forming the protrusions 261 integral with the flap support arms 260, the manufacturing process and cost can be simplified and reduced.

While the present invention has been described and illustrated herein with reference to the preferred embodiments thereof, it will be apparent to those skilled in the art that various modifications and variations can be made therein without departing from the spirit and scope of the invention. Thus, it is intended that the present invention covers the modifications and variations of this invention that come within the scope of the appended claims and their equivalents.

【Industrial Applicability】

According to the present invention, the water leakage can be prevented during the washing water flows from the water guide to the upper nozzle. Also, since the check valve has a simple structure, the manufacturing process and cost can be simplified and reduced. Therefore, the present invention can be applied to various industrial fields.

【CLAIMS】

【Claim 1】

A nozzle structure of a dish washer, comprising:

a nozzle holder;

a gasket unit mounted on an end of the nozzle holder and including at least one inlet port;

a flap support unit protruded from a front of the gasket unit; and

a check valve flap rotatably coupled to the flap support unit.

【Claim 2】

The nozzle structure according to claim 1, further comprising a back cover mounted on a back of the gasket unit.

【Claim 3】

The nozzle structure according to claim 1, wherein the gasket unit includes:

a gasket support from which the flap support unit is protruded; and

a gasket fitted to a back of the gasket support.

【Claim 4】

The nozzle structure according to claim 1, wherein the flap support unit includes:

a flap support arm protruded from the front of the gasket unit; and

a protrusion projected from an end of the flap support arm with a predetermined length in an inward direction.

【Claim 5】

The nozzle structure according to claim 4, wherein the check valve flap includes a

protrusion receiving portion at an upper end to receive the protrusion of the flap support unit.

【Claim 6】

The nozzle structure according to claim 5, wherein the protrusion receiving portion is integrally formed at the upper end of the check valve and has a circular shape.

【Claim 7】

The nozzle structure according to claim 5, wherein the protrusion receiving portion is formed at each upper side in a symmetric manner.

【Claim 8】

The nozzle structure according to claim 1, wherein the at least one inlet port of the gasket unit includes:

a first inlet port at an upper portion; and

a second inlet port under the first inlet port, wherein the flap support unit is protruded between the first inlet port and the second inlet port.

【Claim 9】

The nozzle structure according to claim 8, wherein the second inlet port includes an end sloped at a predetermined angle and the check valve flap selectively opens and closes the second inlet port at the sloped end.

【Claim 10】

The nozzle structure according to claim 8, wherein the second inlet port includes an end that is sloped backward from bottom to top.

【Claim 11】

A nozzle structure of a dish washer, comprising:

a nozzle holder;

a back cover coupled to an end of the nozzle holder;

a gasket fitted to a front of the back cover;

a gasket support coupled to a front of the gasket and including an upper inlet port, a lower inlet port, and a flap support unit formed between the upper inlet port and the lower inlet port; and

a check valve flap coupled to the flap support unit to selectively open and close the lower inlet port.

【Claim 12】

The nozzle structure according to claim 11, wherein the gasket support and/or the check valve flap are/is made of rubber material.

【Claim 13】

The nozzle structure according to claim 11, wherein the flap support unit supports each side of the check valve flap to allow pivoting of the check valve flap.

【Claim 14】

The nozzle structure according to claim 11, wherein when washing water is introduced through the upper inlet port, the check valve flap closes the lower inlet

port.

【Claim 15】

The nozzle structure according to claim 11, wherein the flap support unit is formed on a front of the gasket support and includes flap support arms that face each other at a predetermined distance.

【Claim 16】

The nozzle structure according to claim 11, wherein the flap support unit includes: a flap support arm protruded from a front of the gasket support; and a protrusion inwardly projected from an end of the flap support arm in a direction perpendicular to the flap support arm.

【Claim 17】

The nozzle structure according to claim 16, wherein the check valve flap includes a protrusion receiving portion to receive the protrusion of the flap support unit, and the protrusion supports each end of the protrusion receiving portion to allow pivoting of the check valve flap.

【Claim 18】

The nozzle structure according to claim 11, wherein when washing water does not flow through the lower inlet port, the check valve flap closes the lower inlet port at an end of the lower inlet port under the influence of gravity.

【Claim 19】

The nozzle structure according to claim 11, wherein the upper inlet port and the lower inlet port have the same diameter.

【Claim 20】

A nozzle structure of a dish washer, comprising:

a nozzle holder;

a nozzle rotatably coupled to one end of the nozzle holder;

a gasket unit mounted on the other end of the nozzle holder to prevent leakage of washing water;

a check valve flap mounted on a front of the gasket unit;

a flap support unit formed on a front of the gasket unit to support each side of the check valve flap; and

a water guide to which the other end of the nozzle holder is detachably coupled.

【ABSTRACT】

A nozzle structure of a dish washer is provided. In the nozzle structure, a nozzle holder is provided, a gasket unit is mounted on an end of the nozzle holder and it includes at least one inlet port, a flap support unit is protruded from a front of the gasket unit, and a check valve flap is rotatably coupled to the flap support unit.

【DRAWINGS】

【Figure 1】